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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,361	02/13/2004	Peter David DeVries	4658-00010	7895

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EXAMINER

RUTHKOSKY, MARK

ART UNIT	PAPER NUMBER
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1745

MAIL DATE	DELIVERY MODE
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06/22/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/779,361	DEVRIES, PETER DAVID	
	Examiner	Art Unit	
	Mark Ruthkosky	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 8-14, 22 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-7 and 15-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>3/21/2005</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement filed 3/21/2005 has been placed in the application file, and the information referred to therein has been considered as to the merits.

Drawings

The drawings filed on 2/13/2004 have been approved.

Election/Restrictions

Applicant's election without traverse of Group I, claims 1-7 and 15-21, in the reply filed on 4/19/2007 is acknowledged.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claim 1, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lersch (US 2004/0033411 OR PCT/DE01/04392.)

The instant claims are to an electromagnetic pulse protected fuel cell power system comprising a fuel cell for converting fuel into electrical energy; an electronic fuel cell controller; and an enclosure for containing said fuel cell and controller, where the enclosure is formed from one or more materials which dissipate or reflect electromagnetic pulse energy, such that the pulse strength within the enclosure is below a damage threshold of electronic devices enclosed within the enclosure.

Lersch (US 2004/0033411 OR PCT/DE01/04392) teaches an electromagnetic pulse protected fuel cell power system comprising a fuel cell for converting fuel into electrical energy; and an enclosure for containing said fuel cell, where the enclosure is formed from one or more materials which dissipate or reflect electromagnetic pulse energy, such that the pulse strength within the enclosure is below a damage threshold of electronic devices enclosed within the enclosure (paragraphs 30-37.) Further, the connecting components, which connect the fuel cells, are selected with the same protecting advantages. The casing is made of stainless steel, copper and other materials of low magnetic permeability. These materials are inherently electromagnetic pulse protected. The reference does not teach an electronic fuel cell controller

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housed in the enclosure. The reference does teach that auxiliary components for the fuel cell are housed in the enclosure (p.31.) These components include measuring equipment, sensors, valves, tubes and pipes. The reference also teaches that these components are made of materials that are preferably protecting (p. 33-36.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the auxiliary components of a fuel cell that are not taught in the reference within the housing in order to protect them from electromagnetic radiation. The artisan would have found the claimed invention to be obvious in light of the teachings of the references.

With regard to claim 2, it would have been obvious to one of ordinary skill in the art to include pulse protection on electrical lines of the devices to prevent damage to the device. Surge protection devices are well known in the art to prevent damage to electrical components. As the reference is concerned with protecting the interior components of a fuel cell from such damage, the skilled artisan would be motivated to include protection in the electrical connectors extending from the casing.

With regard to claim 15, power conditioning circuit controls and fuel processors are well described in the fuel cell art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the auxiliary components of a fuel cell that are not taught in the reference within the housing in order to protect them from electromagnetic radiation. The artisan would have found the claimed invention to be obvious in light of the teachings of the references.

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Claims 1-2 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knaggs (US 6,372,983.)

The instant claims are to an electromagnetic pulse protected fuel cell power system comprising a fuel cell for converting fuel into electrical energy; an electronic fuel cell controller; and an enclosure for containing said fuel cell and controller, where the enclosure is formed from one or more materials which dissipate or reflect electromagnetic pulse energy, such that the pulse strength within the enclosure is below a damage threshold of electronic devices enclosed within the enclosure.

Knaggs (US 6,372,983) teaches a protected fuel cell power system comprising a fuel cell for converting fuel into electrical energy; and an enclosure for containing said fuel cell, where the enclosure is formed from one or more materials which dissipate or reflect electromagnetic pulse energy, such that the pulse strength within the enclosure is below a damage threshold of electronic devices enclosed within the enclosure (claims 1-32, cols. 6-7.) The casing is made of stainless steel and aluminum. These materials are inherently electromagnetic pulse protected. The reference does not teach an electronic fuel cell controller housed in the enclosure. The reference does teach that the fuel cell is fully housed in the enclosure (figures.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the auxiliary components of a fuel cell, such as a controller, within the housing in order to protect them from hazards in the exterior environment. The artesian would have found the claimed invention to be obvious in light of the teachings of the references.

With regard to claim 2, it would have been obvious to one of ordinary skill the art to include pulse protection on electrical lines of the devices to prevent damage to the device. Surge

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protection devices are well known in the art to prevent damage to electrical components. As the reference is concerned with protecting the interior components of a fuel cell from such damage, the skilled artisan would be motivated to include protection in the electrical connectors extending from the casing.

With regard to claim 15, power conditioning circuit controls and fuel processors are well described in the fuel cell art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the auxiliary components of a fuel cell that are not taught in the reference within the housing in order to protect them from electromagnetic radiation. The artisan would have found the claimed invention to be obvious in light of the teachings of the references.

Allowable Subject Matter

Claims 4-5 (provided the rejection under 35 U.S.C. 112 is overcome) and 18-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The most pertinent prior art has been noted in the rejections. The references do not teach a means to reflect or dissipate electromagnetic pulse energy comprising an electromagnetic pulse attenuating grid or an electromagnetic pulse attenuating honeycomb cover. The reference also does not teach viewing ports in the enclosure that include means to reflect or dissipate electromagnetic pulse energy such as a transparent conductive material coated onto the viewing port. Lersch (US 2004/0033411 OR PCT/DE01/04392) teaches a casing made of stainless steel, copper and other materials of low magnetic permeability. The reference also teaches that

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auxiliary components for the fuel cell including measuring equipment, sensors, valves, tubes and pipes are made of materials that are preferably protecting (p. 33-36.) Lersch (US 2004/0033411 OR PCT/DE01/04392) does not teach a means to reflect or dissipate electromagnetic pulse energy comprising an electromagnetic pulse attenuating grid or an electromagnetic pulse attenuating honeycomb cover or viewing ports in the enclosure that include means to reflect or dissipate electromagnetic pulse energy.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited references include general teachings and relevant features as to the state of the art at the time of the invention.

Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Ruthkosky whose telephone number is 571-272-1291. The examiner can normally be reached on FLEX schedule (generally, Monday-Thursday from 9:00-6:30.) If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached at 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR


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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free.)

Mark Ruthkosky

Primary Patent Examiner

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6/19/07